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**REMEDIAL INVESTIGATION REPORT
25 SHERWOOD LANE
FAIRFIELD, NEW JERSEY
ISRA CASE # E20010335
CASE NO. 01-06-28-1610-13**

VOLUME 1 OF 6

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1.00 INTRODUCTION

GZA GeoEnvironmental, Inc. (GZA) submits this Remedial Investigation (RI) report on behalf of Unimatic Manufacturing Corporation (Unimatic), regarding the property located at 25 Sherwood Lane, Fairfield, New Jersey (Site). We submit this report to the New Jersey Department of Environmental Protection (Department) in compliance with the Industrial Site Recovery Act (ISRA) for Case Number E20010335.



This RI describes the delineation activities conducted by GZA at the Site, and northern and eastern adjoining properties. In a letter from the Department received on April 3, 2003 (see **Appendix A**), the Department requested that GZA complete the delineation of polychlorinated biphenyls (PCBs) in the soils at the Site, and perform a site investigation of the former septic tank systems in the southern portion of the Site.

GZA's scope of services consisted of installing test borings and collecting soil samples for analytical testing to delineate PCB impact in the soils both on and off the Site. In addition, GZA conducted a limited Site Investigation of the former septic tank system by installing soil borings around the former septic tanks and related piping.

2.00 REMEDIAL INVESTIGATION OF PCBs

This Section describes GZA's field methodology and rationale for the borehole locations in the PCB investigation areas.

2.10 FIELD METHODOLOGY

GZA used truck-mounted GeoProbe drill rigs operated by Environmental Probing Investigations (EPI) of Cream Ridge, New Jersey and AWT Environmental Services (AWT) of Sayreville, New Jersey to install soil borings on and adjacent to the Site. EPI operated a Dingo-mounted GeoProbe drill rig at exterior areas where there was limited access. GZA used a skid steer-mounted GeoProbe operated by Subsurface Remediation and Investigation (SRI) of Bloomingdale, New Jersey to install soil borings inside the building. The GeoProbe unit was set up with a hydraulic hammer to drive a standard 2-inch diameter, 48-inch long sampler installed with a clear acetate liner. Drilling fluids were not used. The driller inserted a new acetate liner between each sample, and cleaned the in-hole boring equipment between sample locations.

During the boring installation, GZA visually classified soils in accordance with the Modified Burmister System and assessed them for visual evidence of contamination and the presence of chemical odors. A log of each boring was prepared with appropriate stratification lines, sample identification, sample depth interval, recovery, and date. The soil cores were screened for airborne volatile compounds using a photoionization detector (PID). Soil boring logs are included as **Appendix B**.



GZA used a hollow stem auger (HSA) drill rig in areas where the GeoProbe met with refusal, or was expected to meet with refusal based on previous exploration in that area. The HSA rigs were operated by Summit Drilling Corp. (Summit) of Bound Brook, New Jersey, and Craig Test Boring (Craig) of Mays Landing, New Jersey. Each HSA drill rig was set up with a hydraulic hammer to drive a two- or three-inch inside diameter, 24-inch long, split-spoon sampler with a 140-pound hammer falling thirty inches. The split-spoon sampler was decontaminated between each sampling interval.

Soil samples collected and analyzed for volatile organic compounds (VOCs) were obtained first by transferring approximately ten grams of soil sample material to a clean, laboratory supplied, 40-milliliter sample container preserved with methanol. Soils to be analyzed for other parameters were obtained next by transferring soil material to clean, laboratory supplied, unpreserved four- and eight-ounce sample containers. Samples were extracted from each acetate liner by scooping representative soil sample material with a clean decontaminated, stainless steel spoon. Separate sampling equipment was used for each sample. GZA collected a field blank to confirm that the sampling equipment did not contain targeted compounds that could cross-contaminate the samples. Samples were stored in an ice-packed cooler and delivered to Aqua Pro-Tech Laboratories in Fairfield, New Jersey (APL) for analysis using proper chain-of-custody procedures. APL is a New Jersey-certified laboratory (certification #07010).

After sample collection, the borings were backfilled with the drill cuttings and leveled to ground surface. Inside the building the boreholes were topped with a water-repellant concrete patch to grade surface.

2.20 BOREHOLE LOCATION PROCEDURE

After GZA's initial mobilization to the Site in May 2003, GZA remobilized to the Site several times over the subsequent few months to collect additional soil samples to complete vertical or horizontal delineation of PCBs in the soils as needed. Delineation continued until the Department Residential Direct Contact Soil Cleanup Criteria (RDCSCC) of 0.49 milligrams per kilogram (mg/Kg) was attained, or until a contaminant gradient ("order of magnitude rule") was established in accordance with the Technical Requirements for Site Remediation (TRSR), 7:26E 4.1(b)(2). Borings were extended an additional five or ten feet for the purpose of collecting contingency samples that were to be analyzed if delineation was not completed. Delineation depths and concentrations are shown on **Figure 3**.

If a soil sample did not achieve the horizontal delineation for which it was designed, additional delineation boreholes were installed in an attempt to complete the horizontal delineation procedure. Boreholes were installed in an iterative fashion until delineation was achieved or could not be practically achieved due to Site constraints.

Boreholes installed at the location of an earlier borehole for vertical delineation purposes were given the name of the original borehole with an "A" added at the end of the name. For instance, borehole SB-27A was installed at the same location as previously installed borehole



SB-27 for vertical delineation purposes. Similarly, borehole SB-27B was installed at a later date to provide vertical delineation of the sample or samples collected from SB-27A.

To simplify the reader's ability to visualize the horizontal delineation activities, this report compartmentalizes horizontal soil depths into successive Layers. Layer 1 contains the data from the shallowest depths, and Layer 7 contains the data from the deepest depth. Please note that the depiction of the PCB results in layers is for visualization purposes only, and does not imply that the deposition of PCBs at the Site was in any way dependent upon the stratigraphy of the Site. Layers 1 through 7 are shown on **Figures 4 through 10**.

A summary of the soil analytical results from the former septic system areas is included as **Table 1**, provided in the back of this report. A summary of the soil analytical results from the PCB investigation is included as **Table 2**, also provided in the back of this report. Furthermore, sub-tables of these summary tables are embedded in subsections of this report for the convenience of the reader. These sub-tables are identified by the subsection in which they appear. For instance, Table 3.10 is provided in Section 3.10 of this report (see below). Laboratory reports for the sampling activities are included as **Appendix C through T**.

3.00 INTERIOR PCB INVESTIGATION

In the April 3, 2003 letter, the Department requested soil sampling for PCB analysis at the former interior trench areas. This Section describes GZA's investigation in this area.

3.10 INTERIOR SITE INVESTIGATION

On May 9, 2003, GZA used a concrete corer machine equipped with a four-inch diameter, diamond-tipped bit to core through the building slab within one foot of the former floor trenches. Boreholes were installed at the same locations as boreholes FT-1 through FT-4, which were installed during GZA's original Site Investigation. The boreholes were advanced to a depth of approximately 3.5 feet below grade (bg), approximately one to two feet below the former trenches (see **Table 3.10**). Once the drill penetrated below 2 feet bg, a decontaminated, stainless steel 3-inch hand auger bit equipped with a 5-foot extension was used to collect the soil samples. The hand auger was field cleaned with an Alconox wash, tap water rinse and followed by a distilled water rinse prior to and after the installation of each boring.

TABLE 3.10

Soil Boring	Sampling Interval (bg)	Rationale of Sample
FT-1A	3.0 to 3.5 feet	Initial PCB characterization
FT-2A	3.0 to 3.5 feet	Initial PCB characterization
FT-3A	3.0 to 3.5 feet	Initial PCB characterization
FT-4A	3.0 to 3.5 feet	Initial PCB characterization



No evidence of impact was noted in any of the boreholes. After sample collection, the borings were backfilled with the drill cuttings and capped with a water-repellant concrete patch to grade surface.

3.20 ANALYTICAL RESULTS

PCBs were detected in soil samples FT-1A through FT-4A at concentrations of 49.4 mg/Kg, 3.2 mg/Kg, 6.7 mg/Kg, and 9.0 mg/Kg, respectively. No exceedences of applicable standards were detected in the field blank sample.

3.30 INTERIOR REMEDIAL INVESTIGATION

Since PCBs were present above the RDCSCC in soil samples FT-1A through FT-4A, GZA installed additional interior boreholes to delineate PCBs both horizontally and vertically. Soil borings FT-1B through FT-4B were installed at the same locations as FT-1A through FT-4A to vertically delineate the floor trench detections. Borings FT-5 through FT-13 were installed to provide horizontal delineation with samples planned in the 3.0 to 3.5 feet bg interval. **Table 3.30** summarizes borehole locations by sampling interval and sample rationale.

TABLE 3.30

Soil Boring	Sampling Interval (bg)	Rationale of Sample
FT-1B	8.0 to 8.5 feet	Vertical delineation of FT-1A
FT-2B	8.0 to 8.5 feet	Vertical delineation of FT-2A
	13.0 to 13.5 feet	Vertical delineation of FT-2B (8.0 to 8.5)
FT-3B	8.0 to 8.5 feet	Vertical delineation of FT-3A
	11.0 to 11.5 feet	Vertical delineation of FT-3B (8.0 to 8.5)
FT-4B	8.0 to 8.5 feet	Vertical delineation of FT-4A
FT-5	3.0 to 3.5 feet	Southern delineation of FT-1A
	8.0 to 8.5 feet	Southern delineation of FT-1B
	13.0 to 13.5 feet	Vertical delineation of FT-5 (8.0 to 8.5)
FT-6	3.0 to 3.5 feet	Western delineation of FT-1A
	9.0 to 9.5 feet	Western delineation of FT-1B
	13.0 to 13.5 feet	Vertical delineation of FT-6 (9.0 to 9.5)
FT-7	2.0 to 2.5 feet	Western delineation of FT-2A
FT-8	3.0 to 3.5 feet	Western delineation of FT-3A
FT-9	3.0 to 3.5 feet	Northern delineation of FT-3A
	9.0 to 9.5 feet	Northern delineation of FT-3B
FT-10	8.0 to 8.5 feet	Western delineation of FT-4B
FT-11	3.0 to 3.5 feet	Southwestern delineation of FT-5 (3.0 to 3.5)
	8.0 to 8.5 feet	Southwestern delineation of FT-5 (8.0 to 8.5)
	13.0 to 13.5 feet	Southwestern delineation of FT-5 (13.0 to 13.5)
FT-12	2.0 to 2.5 feet	Western delineation of FT-6 (3.0 to 3.5)
FT-13	2.0 to 2.5 feet	Western delineation of FT-6 (3.0 to 3.5) and FT-7 (3.0 to 3.5)



3.40 VERTICAL DELINEATION ANALYTICAL RESULTS

The following narrative describes the analytical results from the vertical delineation soil samples. Please note that since boreholes FT-5 through FT-13 were installed for horizontal delineation purposes, sample depths will reflect delineation depths relative to FT-1B through FT-4B. Soil sampling intervals for horizontal delineation purposes during the interior PCB investigation are discussed in Section 3.50 of this report.

In soil boring FT-1B, PCBs were detected at a concentration of 0.74 mg/Kg at 8.0 to 8.5 feet bg, vertically delineating PCBs detected in FT-1A using the order of magnitude rule.

In soil boring FT-2B, PCBs were detected at a concentration of 238 mg/Kg at 8.0 to 8.5 feet bg. PCBs were not detected at 13.0 to 13.5 feet bg, vertically delineating PCBs at this location.

In soil boring FT-3B, PCBs were detected at a concentration of 2.6 mg/Kg at 8.0 to 8.5 feet bg. PCBs were not detected at 13.0 to 13.5 feet bg, vertically delineating PCBs at this location.

In soil boring FT-4B, PCBs were detected at a concentration of 37 mg/Kg at 8.0 to 8.5 feet bg, where the GeoProbe met with refusal. Vertical delineation could not be completed at this location.

In soil boring FT-5, PCBs were detected at concentrations of 48 mg/Kg at 3.0 to 3.5 feet bg and 122 mg/Kg at 8.0 to 8.5 feet bg. PCBs were detected at a concentration of 0.97 mg/Kg at 13.0 to 13.5 feet bg, vertically delineating PCBs at this location using the order of magnitude rule.

In soil boring FT-6, PCBs were detected at concentrations of 236 mg/Kg at 3.0 to 3.5 feet bg and 11.6 mg/Kg at 9.0 to 9.5 feet bg, vertically delineating PCBs at this location using the order of magnitude rule.

In soil boring FT-7, PCBs were detected at a concentration of 55 mg/Kg at 2.0 to 2.5 feet bg, where the GeoProbe met with refusal. Vertical delineation could not be completed at this location.

In soil boring FT-8, PCBs were detected at a concentration of 0.22 mg/Kg at 3.0 to 3.5 feet bg, below the RDCSCC.

In soil boring FT-9, PCBs were detected at a concentration of 1.2 mg/Kg at 3.0 to 3.5 feet bg. PCBs were not detected at 9.0 to 9.5 feet bg, vertically delineating PCBs at this location.

In soil boring FT-10, PCBs were detected at a concentration of 156 mg/Kg at 8.0 to 8.5 feet bg. No other soil samples could be collected in this borehole due to insufficient soil sample recovery from the acetate liners. Vertical delineation was not completed at this location.



In soil boring FT-11, PCBs were detected at a concentration of 35.2 mg/Kg at 8.0 to 8.5 feet bg. PCBs were not detected at 13.0 to 13.5 feet bg, vertically delineating PCBs at this location.

Original soil boring FT-12 met with refusal and no sample was collected (see FT-12X on **Figure 3** for borehole location). A second attempt to install FT-12 further west met with refusal at 2.5 feet bg, where a soil sample was collected. PCBs were detected at a concentration of 0.82 mg/Kg in the 2.0 to 2.5 interval. Vertical delineation could not be completed at this location.

Original soil boring FT-13 met with refusal and no sample was collected (see FT-13X on **Figure 3** for borehole location). A second attempt to install FT-13 further west met with refusal at 2.5 feet bg, where a soil sample was collected. PCBs were not detected in the 2.0 to 2.5 feet bg interval, vertically delineating PCBs at this location.

3.50 HORIZONTAL DELINEATION ANALYTICAL RESULTS

This subsection discusses the results of the indoor horizontal delineation activities from samples collected in boreholes FT-5 through FT-13. GZA attempted to collect additional delineation samples inside the building to complete the horizontal delineation. However, GZA met with refusal during the installation of soil borings FT-14 through FT-18 and SB-72, and was unable to complete the delineation activities.

Figure 4 shows the analytical results for the horizontal delineation samples in Layer 1 for this portion of the Site. **Table 3.50A** summarizes borehole locations by sampling interval and sample rationale. Of the Layer 1 samples collected inside the building, only FT-6 exceeded 100 mg/Kg for total PCBs. This exceedance is delineated to the west by the sample from FT-12 using the order of magnitude rule and by FT-13. It is delineated to the south by FT-11, to the north by FT-8 and FT-3A, and to the east by FT-1A.

TABLE 3.50A

Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
FT-5	3.0 to 3.5 feet	Southern delineation of FT-1A	48.0
FT-6	3.0 to 3.5 feet	Western delineation of FT-1A	236
FT-7	2.0 to 2.5 feet	Western delineation of FT-2A	55.0
FT-8	3.0 to 3.5 feet	Western delineation of FT-3A	0.22
FT-9	3.0 to 3.5 feet	Northern delineation of FT-3A	1.2
FT-11	3.0 to 3.5 feet	Southwestern delineation of FT-5 (3.0 to 3.5)	Not Detected
FT-12	2.0 to 2.5 feet	Western delineation of FT-6 (3.0 to 3.5)	0.81
FT-13	2.0 to 2.5 feet	Western delineation of FT-6 (3.0 to 3.5) and FT-7 (2.0 to 2.5)	Not Detected

Figure 5 shows the analytical results for Layer 2, comprising sampling depths from 8.0 to 9.5 feet bg, for this portion of the Site. **Table 3.50B** summarizes borehole locations by sampling



4.00 EXTERIOR PCB INVESTIGATION - EASTERN PORTION

In the April 3, 2003 letter, the Department requested vertical and horizontal delineation of post-excavation samples PE-14 and PE-15, with PCB concentrations of 2,061 and 1,126 mg/Kg in the 15.0 to 15.5 foot and 16.0 to 16.5 foot sampling intervals, respectively. The Department also requested vertical and horizontal delineation of soil boring SB-27, with a PCB concentration of 20.8 mg/Kg in the 6.0 to 6.5 foot sampling interval. This Section describes GZA's exterior PCB investigation at these locations.

4.10 EXTERIOR REMEDIAL INVESTIGATION - EASTERN PORTION

GZA installed boreholes around PE-14, PE-15, and SB-27 to delineate PCBs both horizontally and vertically in these areas. GZA also installed borings to delineate PCBs both horizontally and vertically for samples PE-12, AST-1B, AST-2B, and AST-3B that also exceeded the RDCSCC in this area. Table 4.10 summarizes the boreholes installed for this phase of the investigation by sampling interval and sample rationale.

TABLE 4.10

Soil Boring	Sampling Interval (bg)	Rationale of Sample
PE-13A	20.0 to 20.5 feet	Vertical delineation of PE-13
PE-16A	20.0 to 20.5 feet	Vertical delineation of PE-16
PE-17A	20.0 to 20.5 feet	Vertical delineation of PE-17
PE-18A	20.0 to 20.5 feet	Vertical delineation of PE-18
SB-30A-16	15.5 to 16.0 feet	Eastern delineation of PE-15
SB-31A-16	16.0 to 16.5 feet	Eastern delineation of PE-14
SB-34A-16	15.5 to 16.0 feet	Eastern delineation of PE-12
SB-34A-19	19.0 to 19.5 feet	Eastern delineation of SB-43
AST-1C	9.0 to 9.5 feet	Vertical delineation of AST-1B
AST-2C	10.0 to 10.5 feet	Vertical delineation of AST-2B
AST-3C	10.0 to 10.5 feet	Vertical delineation of AST-3B
SB-27B	19.5 to 20.0 feet	Vertical delineation of SB-27A
SB-65	9.5 to 10.0 feet	Eastern delineation of SB-27A
	14.5 to 15.0 feet	Eastern delineation of SB-27A
SB-66	9.5 to 10.0 feet	Southern delineation of SB-27A
	14.5 to 15.0 feet	Southern delineation of SB-27A
SB-67	9.5 to 10.0 feet	Western delineation of SB-27A
	14.5 to 15.0 feet	Western delineation of SB-27A
SB-68	9.5 to 10.0 feet	Northern delineation of SB-27A
	14.5 to 15.0 feet	Northern delineation of SB-27A; vertical delineation of SB-68 (9.5-10)
SB-73	5.0 to 5.5 feet	Southern delineation of AST-1B



4.20 VERTICAL DELINEATION ANALYTICAL RESULTS

The following narrative describes the results from the vertical delineation soil samples. Since the boreholes mentioned in the above table were installed for horizontal delineation purposes, sample depths reflect depths relative to the soil borings being delineated.

In soil boring PE-13A, PCBs were detected at a concentration of 0.062 mg/Kg at 20.0 to 20.5 feet bg, vertically delineating PCBs at this location.

In soil boring PE-16A, PCBs were detected at a concentration of 0.069 mg/Kg at 20.0 to 20.5 feet bg, vertically delineating PCBs at this location.

In soil boring PE-17A, PCBs were detected at a concentration of 0.16 mg/Kg at 20.0 to 20.5 feet bg, vertically delineating PCBs at this location.

In soil boring PE-18A, PCBs were detected at a concentration of 1.53 mg/Kg at 20.0 to 20.5 feet bg, vertically delineating PCBs at this location using the order of magnitude rule.

In soil boring AST-1C, PCBs were detected at a concentration of 1.7 mg/Kg at 9.0 to 9.5 feet bg, vertically delineating PCBs at this location using the order of magnitude rule.

In soil boring AST-2C, PCBs were detected at a concentration of 14.8 mg/Kg at 10.0 to 10.5 feet bg, vertically delineating PCBs at this location using the order of magnitude rule.

In soil boring AST-3C, PCBs were not detected at 10.0 to 10.5 feet bg, vertically delineating PCBs at this location.

In soil boring SB-27B, PCBs were detected at concentrations of 20.0 mg/Kg at 10.0 to 10.5 feet bg and at 14 mg/Kg in the 14.5 to 15.0 foot interval. They were not detected at 19.5 to 20.0 feet bg, vertically delineating PCBs at this location.

In soil boring SB-68, PCBs were detected at concentrations of 83.3 mg/Kg at 9.5 to 10.0 feet bg, but were detected at a concentration of 0.023 mg/Kg at 14.5 to 15.0 feet bg, vertically delineating PCBs at this location.

4.30 HORIZONTAL DELINEATION ANALYTICAL RESULTS

This subsection discusses the analytical results from soil samples collected from soil borings installed to horizontally delineate the above mentioned boreholes. As in Section 3.50, horizontal delineation in this area is described by means of successive Layers.

Figure 4 shows the analytical results for the horizontal delineation samples in Layer 1, comprising sampling depths from 5.0 to 7.5 feet bg, for this portion of the Site. **Table 4.30A** summarizes the boreholes installed for this phase of the investigation by sampling interval and sample rationale.



The PCB exceedances in AST-1B and AST-2B are delineated to the east by SB-27 using the order of magnitude rule, and then by non-detects in SB-59 and SB-60. The exceedances in AST-1B and AST-2B, as well as the PCB detection in SB-27, are delineated to the north by SB-25 and SB-26 using the order of magnitude rule. They are delineated to the south by SB-28 and SB-73, and to the west by interior boreholes discussed in Section 4.00 of this report.

TABLE 4.30A

Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
SB-28	6.0 to 6.5 feet	Southwestern delineation of SB-27	0.46
SB-59	6.0 to 6.5 feet	Eastern delineation of SB-27	Not Detected
SB-26	7.0 to 7.5 feet	Northern delineation of SB-27 and eastern delineation of AST-1B	0.92
SB-25	6.0 to 6.5 feet	Northern delineation of AST-1B	0.063
SB-27	6.0 to 6.5 feet	Eastern delineation of AST-2B and AST-3B	20.8
SB-73	5.0 to 5.5 feet	Southern delineation of AST-1B	0.084

Figure 5 shows Layer 2, comprising sampling depths from 7.0 to 10.5 feet bg, for this portion of the Site. **Table 4.30B** summarizes borehole locations by sampling interval and sample rationale.

There were no exceedances of 100 mg/kg total PCBs in this layer. The highest concentrations of PCBs were detected in SB-68 at 83.3 mg/Kg. SB-68 is delineated to the north by SB-26 and AST-1C using the order of magnitude rule, and to the east by SB-65 using the order of magnitude rule. It is delineated to the south by SB-66, and to the west by SB-67 and by AST-2C using the order of magnitude rule.

TABLE 4.30B

Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
AST-1C	9.0 to 9.5 feet	Northern delineation of AST-2B (10.0 to 10.5)	1.7
AST-3C	10.0 to 10.5 feet	Southern delineation of AST-2B (10.0 to 10.5)	Not Detected
SB-26	8.0 to 8.5 feet	Northern delineation of SB-68 (9.5 to 10.0)	0.92
SB-27A	10.0 to 10.5 feet	Vertical delineation of SB-27	20.0
SB-65	9.5 to 10.0 feet	Eastern delineation of SB-27A (10.0 to 10.5)	0.27
SB-66	9.5 to 10.0 feet	Southern delineation of SB-27A (10.0 to 10.5)	Not Detected
SB-68	9.5 to 10.0 feet	Northern delineation of SB-27A (10.0 to 10.5)	11.6

Figure 6 shows Layer 3, comprising sampling depths from 14.5 to 16.5 feet bg, for this portion of the Site. **Table 4.30C** summarizes borehole locations by sampling interval and sample rationale. The following discussion proceeds from south to north in this layer.



Soil Boring	Sampling Interval (bg)	Rationale of Sample
SB-77	11.5 to 12.0 feet	Northern delineation of SB-41 (10.0 to 10.5 feet)
SB-78	3.0 to 3.5 feet	NE delineation of SB-71
SB-78A	7.5 to 8.0 feet	Vertical delineation of SB-78 (3.0 to 3.5 feet)
	12.5 to 13.0 feet	Vertical delineation of SB-78 (7.5 to 8.0 feet)
SB-80	3.0 to 3.5 feet	NW delineation of SB-75
	8.0 to 8.5 feet	Vertical delineation of SB-80 (3.0 to 3.5 feet)
SB-81	3.0 to 3.5 feet	NE delineation of SB-75
	8.0 to 8.5 feet	Vertical delineation of SB-81 (3.0 to 3.5 feet)
SB-81A	13.0 to 13.5 feet	Vertical delineation of SB-81 (8.0 to 8.5 feet)
	23.5 to 24.0 feet	Western delineation of SB-82
SB-82	8.0 to 8.5 feet	NE delineation of SB-78 (7.5 to 8.0 feet)
	19.0 to 19.5 feet	Vertical delineation of SB-82 (8.0 to 8.5 feet)
	23.5 to 24.0 feet	Vertical delineation of SB-82 (19.0 to 19.5 feet)
SB-83	8.0 to 8.5 feet	Northern delineation of SB-82 (8.0 to 8.5 feet) and NW delineation of SB-77 (11.5 to 12.0 feet)
	11.5 to 12.0 feet	NW delineation of SB-77 (11.5 to 12.0 feet)
SB-83A	16.5 to 17.0 feet	Vertical delineation of SB-83 (11.5 to 12.0 feet)
	23.5 to 24.0 feet	Northern delineation of SB-82 (23.5 to 24.0 feet) and vertical delineation of SB-83A (16.5 to 17.0 feet)
	28.5 to 29.0 feet	Vertical delineation of SB-83A (23.5 to 24.0 feet)
	32.0 to 32.5 feet	Vertical delineation of SB-83A (28.5 to 29.0 feet)
SB-84	8.0 to 8.5 feet	NE delineation of SB-77 (11.5 to 12.0 feet)
	11.5 to 12.0 feet	NE delineation of SB-77 (11.5 to 12.0 feet)
SB-84A	16.5 to 17.0 feet	Vertical delineation of SB-84 (11.5 to 12.0 feet)
	23.5 to 24.0 feet	Vertical delineation of SB-84A (16.5 to 17.0 feet)
	28.5 to 29.0 feet	Vertical delineation of SB-84A (23.5 to 24.0 feet)
	32.0 to 32.5 feet	Vertical delineation of SB-84A (28.5 to 29.0 feet)
SB-85	3.0 to 3.5 feet	NW delineation of SB-88 (3.0 to 3.5 feet)
	23.5 to 24.0 feet	NW delineation of SB-83A (23.5 to 24.0 feet) and vertical delineation of SB-85 (3.0 to 3.5 feet)
	28.5 to 29.0 feet	NW delineation of SB-83A (28.5 to 29.0 feet) and vertical delineation of SB-85 (23.5 to 24.0 feet)
SB-86	23.0 to 24.0 feet	NE delineation of SB-83 A (23.5 to 24.0 feet)
	28.5 to 29.0 feet	NE delineation of SB-83A (28.5 to 29.0 feet) and vertical delineation of SB-86 (23.5 to 24.0 feet)
SB-86A	33.5 to 34.0 feet	NE delineation of SB-83A (32.0 to 32.5 feet) and vertical delineation of SB-86 (28.5 to 29.0 feet)
	38.5 to 39.0 feet	Vertical delineation of SB-86A (33.5 to 34.0 feet)
SB-87	23.5 to 24.0 feet	NE delineation of SB-84 (23.5 to 24.0 feet)
	28.5 to 29.0 feet	NE delineation of SB-84 (28.5 to 29.0 feet) and vertical delineation of SB-87 (23.5 to 24.0 feet)
SB-88	3.0 to 3.5 feet	North and northeastern delineation of SB-76 (2.5 to 3.0 feet) and SB-81 (3.0 to 3.5 feet)
	8.0 to 8.5 feet	Vertical delineation of SB-88 (3.0 to 3.5 feet)
SB-89	23.5 to 24.0 feet	SE delineation of SB-84 (23.5 to 24.0 feet)



In soil boring SB-77, PCBs were detected at a concentration of 87.0 mg/Kg at 11.5 to 12.0 feet bg, where the HSA met with refusal. Vertical delineation could not be completed at this location.

In soil borings SB-78 and SB-78A, PCBs were detected at concentrations of 204 mg/Kg at 7.5 to 8.0 feet bg and 2.8 mg/Kg at 12.5 to 13.0 feet bg, vertically delineating PCBs at this location using the order of magnitude rule.

In soil boring SB-80, PCBs were detected at concentrations of 0.95 mg/Kg at 3.0 to 3.5 feet bg and 0.061 mg/Kg at 8.0 to 8.5 feet bg, vertically delineating PCBs at this location.

In soil borings SB-81 and SB-81A, PCBs were detected at concentrations of 56.8 mg/Kg at 8.0 to 8.5 feet bg and 0.41 mg/Kg at 13.0 to 13.5 feet bg, vertically delineating PCBs at this location.

In soil boring SB-82, PCBs were detected at concentrations of 385 mg/Kg at 8.0 to 8.5 feet bg, 203 mg/Kg at 19.0 to 19.5 feet bg, and 38.6 mg/Kg at 23.5 to 24.0 feet bg, vertically delineating PCBs at this location using the order of magnitude rule.

In soil borings SB-83 and SB-83A, PCBs were detected at concentrations of 0.87 mg/Kg at 8.0 to 8.5 feet bg, 1.76 mg/Kg at 11.5 to 12.0 feet bg, 0.833 mg/Kg at 16.5 to 17.0, and then 119 mg/Kg at 23.5 to 24.0 feet bg. This exceedance was delineated by a detection of 1.46 mg/Kg at 28.5 to 29.0 feet bg; however the samples from 32.0 to 32.5 feet bg contained PCBs at a concentration of 25.6 mg/Kg. Vertical delineation was not completed beyond this depth.

In soil borings SB-84 and SB-84A, PCBs were detected at concentrations of 28.4 mg/Kg at 8.0 to 8.5 feet bg, 0.28 mg/Kg at 11.5 to 12.0 feet bg, vertically delineating PCBs to this depth. Deeper sampling at this location for horizontal delineation purposes detected PCBs at a concentration of 1.58 mg/Kg at 16.5 to 17.0 feet bg, 161.0 mg/Kg at 23.5 to 24.0 feet bg, and 233 mg/Kg at 28.5 to 29.0 feet bg. PCBs were detected at a concentration of 26.9 mg/Kg at 32.0 to 32.5 feet bg, vertically delineating the deeper PCBs at this location using the order of magnitude rule.

In soil boring SB-85, PCBs were detected at concentrations of 2.47 mg/Kg at 3.0 to 3.5 feet bg, 17.0 mg/Kg at 23.5 to 24.0 feet bg, and 8.86 mg/Kg at 28.5 to 29.0 feet bg. Vertical delineation was not completed at this location.

In soil borings SB-86 and SB-86A, PCBs were detected at concentrations of 3.02 mg/Kg at 23.5 to 24.0 feet bg, 89.2 mg/Kg at 28.5 to 29.0 feet bg, 62.724 mg/Kg at 33.5 to 34.0 feet bg, and 2.78 mg/Kg at 38.5 to 39.0 feet bg, vertically delineating PCBs at this location using the order of magnitude rule.

In soil boring SB-87, PCBs were detected at concentrations of 1.48 mg/Kg at 23.5 to 24.0 feet bg and 3.56 mg/Kg at 28.5 to 29.0 feet bg. Vertical delineation was not completed at this location.



In soil boring SB-88, PCBs were detected at a concentration of 1.78 mg/Kg at 3.0 to 3.5 feet bg and were not detected at 8.0 to 8.5 feet bg, vertically delineating PCBs at this location.

In soil boring SB-89, PCBs were detected at concentrations of 3.75 mg/Kg at 23.5 to 24.0 feet bg and 9.70 mg/Kg at 28.5 to 29.0 feet bg. Vertical delineation was not completed at this location.

In soil boring SB-90, PCBs were detected at a concentration of 2,177 mg/Kg at 3.0 to 3.5 feet bg and were not detected at 8.0 to 8.5 feet bg, vertically delineating PCBs at this location.

In soil boring SB-92, PCBs were detected at a concentration of 2.25 mg/Kg at 3.0 to 3.5 feet bg. Vertical delineation was not completed at this location.

In soil boring SB-93, PCBs were detected at a concentration of 0.86 mg/Kg at 3.0 to 3.5 feet bg. Vertical delineation was not completed at this location.

In soil boring SB-94, PCBs were detected at concentrations of 1.29 mg/Kg at 28.5 to 29.0 feet bg, and 0.044 mg/Kg at 33.5 to 34.0 feet bg, vertically delineating PCBs at this location. PCBs were also detected at a concentration of 0.15 mg/Kg at 38.5 to 39.0 feet bg.

5.30 HORIZONTAL DELINEATION ANALYTICAL RESULTS

This subsection discusses the analytical results from soil samples collected from soil borings in the northern portion of the Site exterior, see Section 5.10 of this report.

Figure 4 shows the analytical results for the horizontal delineation samples in Layer 1, comprising sampling depths from ground surface to 3.5 feet bg, for this portion of the Site. **Table 5.30A** summarizes the boreholes installed for this phase of the investigation by sampling interval and sample rationale.

Soil samples from SB-54, SB-71, and SB-90 contained PCBs at concentrations above 100 mg/Kg. These exceedances are delineated to the south by the building, where refusal was met at this depth, to the west by SB-74 and SB-91, and SB-92 using the order of magnitude rule. They are delineated to the north by SB-92, SB-93, and by SB-85, and SB-88 using the order of magnitude rule. They are delineated to the east by the western limits of the former excavation.

TABLE 5.30A

Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
SB-53A	2.5 to 3.0 feet	Initial PCB characterization	40.7
SB-54A	3.0 to 3.5 feet	NE delineation of SB-71 (2.5 to 3.0 feet)	364
SB-69	2.5 to 3.0 feet	Western delineation of SB-53A (2.5 to 3.0 feet)	40.7
SB-70	2.5 to 3.0 feet	Northern delineation of SB-53A (2.5 to 3.0 feet)	25.2
SB-71	2.5 to 3.0 feet	Eastern delineation of SB-53A (2.5 to 3.0 feet)	989



Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
SB-74	2.5 to 3.0 feet	NW delineation of SB-69 (2.5 to 3.0 feet)	Not Detected
SB-75	3.0 to 3.5 feet	NW delineation of SB-70 (2.5 to 3.0 feet)	17.6
SB-76	2.5 to 3.0 feet	NE delineation of SB-70 (2.5 to 3.0 feet)	1.05
SB-78	3.0 to 3.5 feet	NE delineation of SB-71 (2.5 to 3.0 feet)	23.3
SB-80	3.0 to 3.5 feet	NW delineation of SB-75 (3.0 to 3.5 feet)	0.95
SB-81	3.0 to 3.5 feet	NE delineation of SB-75 (3.0 to 3.5 feet)	50.5
SB-85	3.0 to 3.5 feet	NW delineation of SB-88 (3.0 to 3.5 feet)	2.47
SB-88	3.0 to 3.5 feet	NE delineation of SB-81 (3.0 to 3.5 feet)	1.78
SB-90	3.0 to 3.5 feet	Northern delineation of SB-80 (3.0 to 3.5 feet)	2,177
SB-91	3.0 to 3.5 feet	SW delineation of SB-90 (3.0 to 3.5 feet)	0.029
SB-92	3.0 to 3.5 feet	NW delineation of SB-90 (3.0 to 3.5 feet)	2.25
SB-93	3.0 to 3.5 feet	NE delineation of SB-90 (3.0 to 3.5 feet)	0.86

Figure 5 shows Layer 2, comprising sampling depths from 6.0 to 9.5 feet bg, for this portion of the Site. Table 5.30B summarizes borehole locations by sampling interval and sample rationale.

Soil samples SB-76, SB-78, and SB-82 contained PCBs at concentrations above 100 mg/Kg. These exceedances are delineated to the south by SB-53A and SB-71, and to the west by SB-75, and SB-70 and SB-81 using the order of magnitude rule. They are delineated to the north by SB-88 and SB-83, and by SB-84 using the order of magnitude rule, and to the west by SB-41 using the order of magnitude rule and by SB-54.

TABLE 5.30B

Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
SB-41	10.0 to 10.5 feet	Initial PCB characterization	1.3
SB-53B	6.0 to 6.5 feet	Vertical delineation of SB-53A	0.17
SB-69	7.5 to 8.0 feet	Vertical delineation of SB-69 (2.5 to 3.0 feet) and western delineation of SB-53B (6.0 to 6.5 feet)	6.0
SB-70	7.5 to 8.0 feet	Vertical delineation of SB-70 (2.5 to 3.0 feet) and northern delineation of SB-53B (6.0 to 6.5 feet)	2.04
SB-71	7.5 to 8.0 feet	Vertical delineation of SB-71 (2.5 to 3.0 feet) and eastern delineation of SB-53B (6.0 to 6.5 feet)	0.067
SB-74	7.5 to 8.0 feet	Vertical delineation of SB-74 (2.5 to 3.0 feet) and NW delineation of SB-69	Not Detected
SB-75	9.0 to 9.5 feet	Vertical delineation of SB-75 (3.0 to 3.5 feet) and NW delineation of SB-70	0.2
SB-76	8.0 to 8.5 feet	Vertical delineation of SB-76 (2.5 to 3.0 feet) and NE delineation of SB-70	1,162
SB-78A	7.5 to 8.0 feet	Vertical delineation of SB-78 (3.0 to 3.5 feet) and NE delineation of SB-71 (7.5 to 8.0 feet)	204



Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
SB-80	8.0 to 8.5 feet	Vertical delineation of SB-80 (3.0 to 3.5 feet) and NW delineation of SB-75 (9.0 to 9.5 feet)	0.061
SB-81	8.0 to 8.5 feet	Vertical delineation of SB-81 (3.0 to 3.5 feet) and NE delineation of SB-75 (9.0 to 9.5 feet)	56.8
SB-82	8.0 to 8.5 feet	NE delineation of SB-78 (7.5 to 8.0 feet)	385
SB-83	8.0 to 8.5 feet	Northern delineation of SB-82 (8.0 to 8.5 feet) and NW delineation of SB-77 (11.5 to 12.0 feet)	0.87
SB-84	8.0 to 8.5 feet	NE delineation of SB-77 (11.5 to 12.0 feet)	28.4
SB-88	8.0 to 8.5 feet	Vertical delineation of SB-88 (3.0 to 3.5 feet) and NE delineation of SB-81 (8.0 to 8.5 feet)	Not Detected
SB-90	8.0 to 8.5 feet	NW delineation of SB-81 (8.0 to 8.5 feet) and vertical delineation of SB-90 (3.0 to 3.5 feet)	Not Detected

Figure 6 shows Layer 3, comprising sampling depths from 11.5 to 13.5 feet bg, for this portion of the Site. Table 5.30C summarizes borehole locations by sampling interval and sample rationale.

In soil boring SB-77, PCBs were detected at a concentration of 87 mg/Kg at 11.5 to 12.0 feet bg. This PCB detection is delineated to the south by soil borings SB-78A and SB-54A, to the west by soil borings SB-76A and SB-81A, to the north by soil borings SB-83A and SB-84A, using the order of magnitude rule, and to the east by the former excavation.

TABLE 5.30C

Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
SB-54A	12.5 to 13.0 feet	Southern delineation of SB-77 (11.5 to 12.0 feet)	3.85
SB-54A	15.0 to 15.5 feet	Vertical delineation of SB-54 (12.5 to 13.0 feet)	0.023
SB-77	11.5 to 12.0 feet	Northern delineation of SB-41 (10.0 to 10.5 feet)	87.0
SB-76A	13.0 to 13.5 feet	Western delineation of SB-77 (11.5 to 12.0 feet)	0.69
SB-78A	12.5 to 13.0 feet	SW delineation of SB-77 (11.5 to 12.0 feet)	2.8
SB-81A	13.0 to 13.5 feet	NW delineation of SB-76A (13.0 to 13.5 feet)	0.41
SB-83A	11.5 to 12.0 feet	Northern delineation of SB-77 (11.5 to 12.0 feet)	1.76
SB-84A	11.5 to 12.0 feet	Northern delineation of SB-77 (11.5 to 12.0 feet)	0.28

Figure 7 shows Layer 4, comprising sampling depths from 16.5 to 19.5 feet bg, for this portion of the Site. Table 5.30D summarizes borehole locations by sampling interval and sample rationale.

The sample collected from soil boring SB-82 contained PCBs at a concentration above 100 mg/Kg. This exceedance is delineated to the west by soil boring SB-76A, to the north by soil borings SB-83A and SB-84A, and to the south by soil boring SB-41A using the order of magnitude rule.



Figure 9 shows Layer 6, comprising sampling depths from 28.5 to 29.0 feet bg, for this portion of the Site. Table 5.30F summarizes the boreholes installed for this phase of the investigation by sampling interval and sample rationale.

The sample collected from soil boring SB-84A contained PCBs at a concentration above 100 mg/Kg. This exceedance is delineated to the north by SB-94, and to the west by SB-83A and SB-85, to the south by SB-89, and to the east by SB-87, all using the order of magnitude rule.

TABLE 5.30F

Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
SB-84A	28.5 to 29.0 feet	Vertical delineation of SB-84A (23.5 to 24.0 feet)	233
SB-86A	28.5 to 29.0 feet	NW delineation of SB-84A (28.5 to 29.0 feet)	89.2
SB-83A	28.5 to 29.0 feet	Vertical delineation of SB-83A (23.5 to 24.0 feet)	1.459
SB-85	28.5 to 29.0 feet	NW delineation of SB-83A (28.5 to 29.0 feet) and vertical delineation of SB-85 (23.5 to 24.0 feet)	8.86
SB-94	28.5 to 29.0 feet	Northern delineation of SB-86A (28.5 to 29.0 feet)	1.29
SB-87	28.5 to 29.0 feet	Vertical delineation of SB-87 (23.5 to 24.0 feet) and NE delineation of SB-84A (28.5 to 29.0 feet)	3.56
SB-89	28.5 to 29.0 feet	SE delineation of SB-84A (28.5 to 29.0 feet)	9.70

Figure 10 shows Layer 7, comprising sampling depths from 32.0 to 34.0 feet bg, for this portion of the Site. Table 5.30G summarizes the borehole installed for this phase of the investigation by sampling interval and sample rationale.

The highest concentration of PCBs detected in this layer is 62.7 mg/Kg detected in borehole SB-86A at 33.5 to 34.0 feet bg. This detection is delineated to the north by SB-94. PCB concentrations decrease to the south, where SB-83A and SB-84A encountered PCBs at half the concentration detected in SB-86A. Further delineation was not attempted at this depth due to excessive water in the split spoons from the drilling rig.

TABLE 5.30G

Soil Boring	Sampling Interval (bg)	Rationale of Sample	PCB Concentration (mg/Kg)
SB-84A	32.0 to 32.5 feet	Vertical delineation of SB-84A (23.5 to 24.0 feet)	26.9
SB-86A	33.5 to 34.0 feet	NW delineation of SB-84A (28.5 to 29.0 feet)	62.7
SB-83A	32.0 to 32.5 feet	Vertical delineation of SB-83A (23.5 to 24.0 feet)	25.6
SB-94	33.5 to 34.0 feet	NW delineation of SB-83A (28.5 to 29.0 feet) and vertical delineation of SB-85 (23.5 to 24.0 feet)	0.044



5.40 SUMMARY OF FINDINGS FOR EXTERIOR REMEDIAL INVESTIGATION - NORTHERN PORTION

Soil PCB impacts have been identified on the northern portion of the property. Starting at shallow depths along the northern wall of the building, the PCB-impacted soils appear to dip to the northeast well below the water table, located at approximately 16 feet bg at the time of the investigation. GZA was able to complete the delineation of the PCBs in this area to 30 feet bg, below which the excessive groundwater encountered and overall difficult drilling conditions precluded completion of the delineation activities in the deeper layers.

6.00 ADJOINING NORTHERN PROPERTY PCB INVESTIGATION

In the April 3, 2003 letter, the Department requested vertical and horizontal delineation of soil samples PE-2 and SB-38, which contained PCBs at concentrations of 1.9 and 0.64 mg/Kg, respectively, from 4.0 to 4.5 feet bg. These samples were collected on the adjoining Jersey City property. This Section describes GZA's PCB investigation in this area, which was conducted with the written approval and in the presence of Jersey City personnel.

6.10 JERSEY CITY PROPERTY REMEDIAL INVESTIGATION

GZA installed additional boreholes to delineate PCBs both horizontally and vertically in this area. **Table 6.10** summarizes the boreholes installed for this phase of the investigation by sampling interval and sample rationale.

TABLE 6.10

Soil Boring	Sampling Interval (bg)	Rationale of Sample
SB-79	4.0 to 4.5 feet	Northern delineation of PE-2
	10.0 to 10.5 feet	Vertical delineation of SB-79 (4.0 to 4.5)
PE-1A	20.0 to 20.5 feet	Vertical delineation of PE-1
SB-38A	10.0 to 10.5 feet	Vertical delineation of SB-38 and northern delineation of SB-79
SB-38A	15.0 to 15.5 feet	Vertical delineation of SB-38A (10.0 to 10.5)

6.20 VERTICAL DELINEATION ANALYTICAL RESULTS

The following narrative describes the analytical results from the vertical delineation soil samples. Please note that since borehole SB-79 was installed for horizontal delineation purposes, sample depths for this borehole will reflect delineation depths relative to PE-2.

In soil boring SB-38A, PCBs were detected at a concentration of 1.55 mg/Kg at 10.0 to 10.5 feet bg, and were not detected at 15.0 to 15.5 feet bg, vertically delineating PCBs at this location.



In soil boring PE-1A, PCBs were detected at a concentration of 0.25 mg/Kg at 10.0 to 10.5 feet bg, vertically delineating the 0.73 mg/Kg of PCBs detected at this location in the 4.0 to 4.5 foot interval.

6.30 HORIZONTAL DELINEATION ANALYTICAL RESULTS

This subsection discusses the analytical results from horizontal delineation soil samples collected in this area. **Figure 4** shows the analytical results for the horizontal delineation samples in Layer 1, comprising sampling depths from 4.0 to 6.5 feet bg, for this portion of the Site. Sample PE-1 contained the highest concentration of PCBs detected in Layer 1 (0.73 mg/Kg). This sample is delineated to the south by the northern wall of the former excavation, to the east by SB-79, to the west by SB-37, and to the north by samples SB-39 and SB-40.

Figure 5 shows Layer 2, comprising sampling depths from 10.0 to 10.5 feet bg, for this portion of the Site. In soil boring SB-38A, PCBs were detected at a concentration of 1.55 mg/Kg at 10.0 to 10.5 feet bg. This detection is delineated to the east by SB-79, to the west by PE-1, and to the south by the northern wall of the excavation. The PCBs are not delineated to the north in this layer.

7.00 FORMER SEPTIC TANK SYSTEM SITE INVESTIGATION

This Section describes the methodologies and findings of GZA's Site Investigation in the former septic tank areas.

7.10 FIELD METHODOLOGY

In accordance with the April 3, 2003 letter, GZA sampled both former septic systems in accordance with the TRSR. On May 9, 2003, AWT used a truck-mounted GeoProbe drill rig to install ten soil borings (ST-1 through ST-10) around the two former septic systems at locations selected by GZA. Borehole locations are shown in **Figure 2**. The GeoProbe units were operated as described in Section 2.00 of this report.

7.20 SITE INVESTIGATION

Based on our previous experience with septic tanks, GZA assumed the tanks to be approximately ten to twelve feet in diameter and extend to a depth of approximately eight to ten feet bg. Therefore, GZA planned to install borings around the former tanks to depths of 12 feet bg, or two feet below the bottom of the tanks. AWT attempted to install four borings around the suspected location of each tank, to a depth of 12 feet bg, and one soil boring in the approximate area of the connecting piping to a depth of 3 feet bg, below the bottom of the piping, assumed to be at two feet bg. Three soil borings around the western septic tank met with refusal at 10 feet bg, and one boring around the eastern septic tank met with refusal at 8 feet bg. No elevated PID readings or septic odors were noted from these ten borings.

Soils to be analyzed for PCBs were collected and analyzed as described in Section 2.10. The soil samples were analyzed for PCBs, the primary chemical of concern at the Site, and total



petroleum hydrocarbons (TPH), to identify non-PCB related petroleum spills. The three samples with the highest TPH concentrations were analyzed for VOCs and base neutral compounds (BNs) as contingency analyses.

Samples were stored and transported as discussed in Section 2.10 of this report. APL analyzed the soil samples for VOCs using USEPA Method 8260, for PCBs using USEPA Method 8082, for BNs using USEPA Method 8270, and for TPH using USEPA Method 418.1, as applicable.

7.30 ANALYTICAL RESULTS

Analytical results for this area are included as **Table 1**. None of the samples contained detectable concentrations of PCBs, or TPH at concentrations above the action level of 1000 mg/Kg. GZA selected samples ST-3, ST-6, and ST-7 for contingency analyses because these samples had the highest TPH concentrations. No targeted VOCs or BNs were detected above their most stringent Department standards in these soil samples. No exceedences of any applicable standards were detected in the field blank sample.

8.00 VOLATILE ORGANIC COMPOUND INVESTIGATION

In the April 3, 2003 letter, the Department requested the re-sampling and VOC analysis of soil samples SB-49 and SB-25 on the eastern portion of the Site. This Section describes GZA's VOC investigation at these locations, and at locations where soil samples were collected for VOC analysis because elevated PID readings were recorded in the course of the supplemental RI.

On May 9, 2003, GZA collected a sample for VOC analysis from soil boring SB-25A in the 3.0 to 3.5 foot interval. No elevated PID readings were recorded in this borehole. No targeted VOCs were detected above their respective RDCSCC in this sample.

On June 2, 2003, GZA collected a sample from soil boring SB-49C in the 3.5 to 4.0 foot interval. No elevated PID readings were recorded in this borehole. No targeted VOCs were detected above their RDCSCC in this sample. VOC samples were also collected from inside the building from boreholes FT-2B, FT-5, FT-7, FT-8, and FT-11 due to elevated PID readings at those locations. Soil samples were collected from the intervals with the highest PID readings. None of the soil samples contained any targeted VOCs above their RDCSCC. The VOC analytical results are summarized in **Table 3**, provided in the back of this report.

9.00 CONCLUSIONS AND RECOMMENDATIONS

In response to a letter from the Department received on April 3, 2003, GZA conducted an extensive supplementary remedial investigation at the Site. The investigation entailed the installation of dozens of boreholes both inside and outside the building, and the collection of



one or more samples from those boreholes that did not meet with refusal at or before the planned sampling depth(s).

The analytical results essentially confirmed the delineation documented in GZA's Remedial Investigation Report dated October 29, 2002 along the former waste water pipeline on the eastern and northeastern portions of the Site. The investigation did, however, identify three new locations of PCB exceedances: inside the building in the vicinity of the former floor trenches, and north of the building, possibly related to the former northern waste water pipe, and in the northwest corner of the property.

Interior Impacted Soils

No PCB exceedances were identified inside the building below 8.5 feet below grade (bg) or much beyond the former floor trench area. However, vertical and horizontal delineation activities inside the building were hampered by refusal at numerous locations, especially to the north and west of the former floor trenches. The concrete floor in these areas was up to 24 inches thick, and there was a double concrete floor at many locations.

The impacted soils inside the building cannot be removed without significant disruption to facility operations, and there are no known, proven technologies for the *in situ* treatment of PCBs. These soils do not present any environmental or exposure risks to building occupants because of their location beneath the thick concrete floor, which acts as an effective cap. Since it is not feasible to remediate these soils, they should be left in place and maintained using institutional controls, with the concrete building slab capping the soils as an engineering control, thereby protecting building workers and the environment.

Northern Impacted Soils

The soils on the northern portion of the Site contain PCB exceedances to depths well below the top of the water table, located around 16 feet bg. The impacted soils appear to form a northeast sloping wedge, beginning near the surface along the east portion of the building's northern wall. The impacted soils below 30 feet bg could not be fully delineated because the large head of groundwater prevented the effective collection of soil samples from these depths.

As part of the next remedial phase of work, GZA will excavate the accessible soils in the northern portion of the facility and dispose them off-site at a properly-licensed landfill. However, approximately 300 tons of PCB-impacted soils are present well below the water table, at depths of 25 to 33 feet bg. These soils cannot be excavated without taking expensive precautionary measures such as dewatering and/or sheeting. The maximum concentration of PCBs in soils at these depths is 234 mg/kg, an order of magnitude below the concentrations encountered in other portions of the facility, although above the target remediation standard of 100 mg/kg discussed in previous correspondence with the Department. GZA proposes leaving these soils in place unless it is clear that remediation is necessary to prevent groundwater contamination at the Site.

Northwestern Impacted Soils

This investigation identified one shallow area of PCB impact in the northwest corner of the Site that appears unrelated to this sloping wedge of impacted soils. GZA plans to excavate these soils as part of the next remedial action phase of work.



Remedial Action

On October 27, 2003, GZA mobilized to the Site to remediate the impacted soils on the eastern and northern portions of the Site. We are excavating the impacted areas as outlined above to the 100 mg/kg target remediation standard. The current soil remediation activities, and subsequent monitoring well installation and groundwater monitoring activities, will be documented in a separate report to the Department.



DESCRIPTION/NOTES

Scale = 1 : 24,000
MAP TAKEN FROM THE POMTON PLAINS QUADRANGLE,
DATED 1955, PHOTOREVISED 1981

UNIMATIC MANUFACTURING COMPANY
25 SHERWOOD LANE
FAIRFIELD, NEW JERSEY 07004



GZA
GeoEnvironmental, Inc.

66 Wilentz Blvd., Wayne, New Jersey 07470

NOTES:

PROJECT MGR: BA
DESIGNED BY: CS
REVIEWED BY: BD

DRAWN BY: CS
DATE: 7/3/01

SITE LOCATION MAP

PROJECT NO.

12.0075418.00

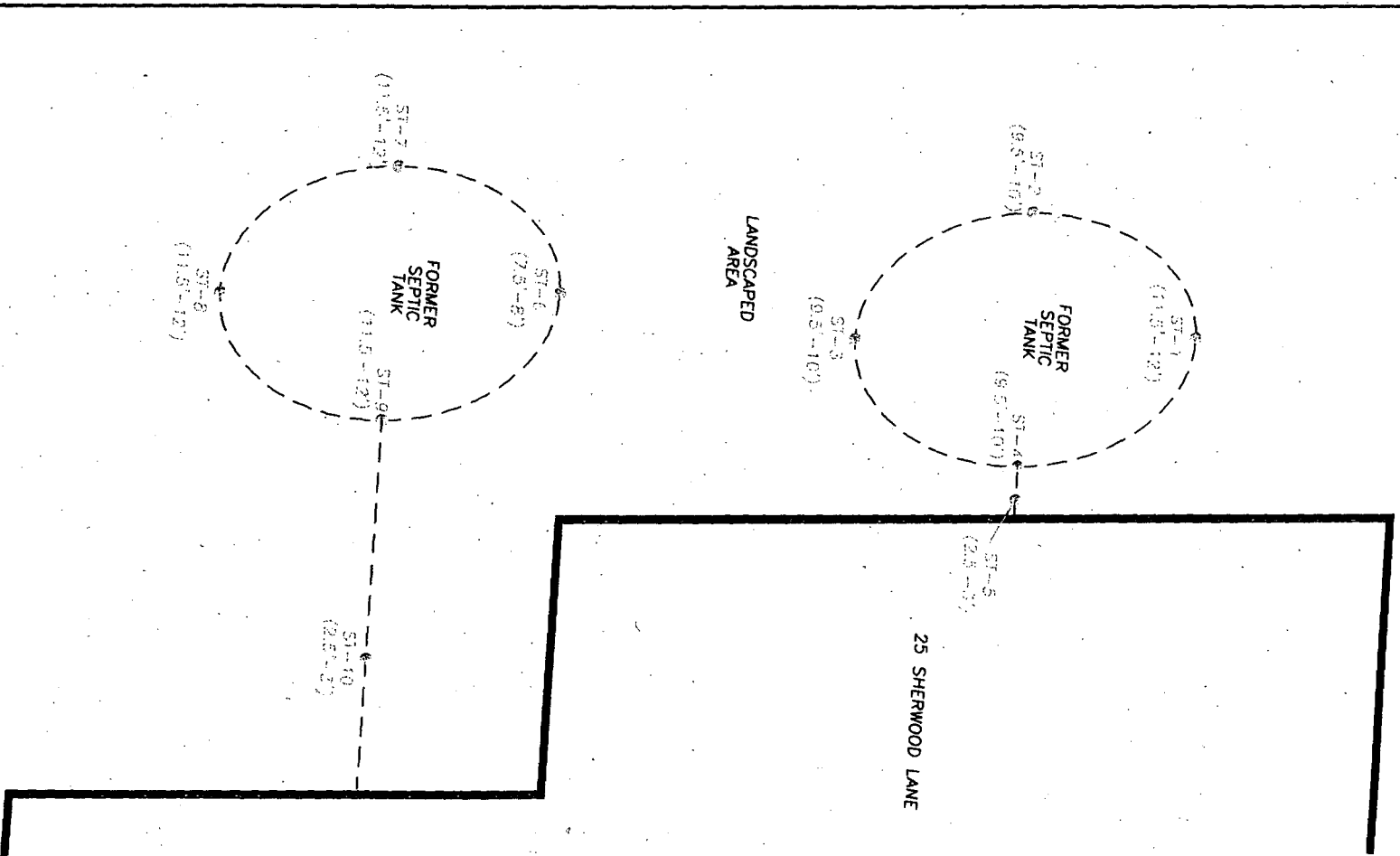
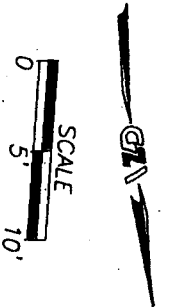
FIGURE NO.


Figure 1

LEGEND

--- ASSUMED PERIMETER OF
FORMER SEPTIC TANK

ST-7 (11.5'-12')
GEOPROBE SOIL BORING
(SAMPLE DEPTH)



PROJECT NO. 12.0075418.00	FIGURE NO. 2	Unimatic Manufacturing Company 25 Sherwood Lane (Block 2302, Lot 8) Fairfield, NJ 07004				
			REV. NO.	DESCRIPTION	BY	DATE
			ACKNOWLEDGEMENT:		PROJECT MGR: B.A. OPERATOR: B.F. DESIGNED BY: C.S. REVIEWED BY: B.A. DATE: 5/15/2003	
 GZA GeoEnvironmental, Inc.						
Former Septic Tank Borehole Locations						

**Table 1: Former Septic Tank System
Soil Analytical Results
Former Unimatic Manufacturing Co. Facility
25 Sherwood Lane, Fairfield, New Jersey**

Sample ID	Residential	ST-1	ST-2	ST-3	ST-4	ST-5	ST-6	ST-7	ST-8	ST-9	ST-10
Date Collected	Direct Contact	5/9/03	5/9/03	5/9/03	5/9/03	5/9/03	5/9/03	5/9/03	5/9/03	5/9/03	5/9/03
Depth Collected (fbg)	Soil Cleanup	11.5-12.0	9.5-10.0	9.5-10.0	9.5-10.0	2.5-3.0	7.5-8.0	11.5-12.0	11.5-12.0	11.5-12.0	2.5-3.0
Percent Solids	Criteria	88.8%	86.5%	89.5%	88.8%	87.4%	86.0%	86.3%	85.2%	83.8%	87.5%
Dilution Factor		1	1	1	1	1	1	1	1	1	1
PCB (mg/Kg)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	(*)	81.0	35.0	363	52.0	14.0	95.0	142	36.0	33.0	<5.7
TPH (mg/Kg)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
VOC (mg/Kg)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	23	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA
Ethylbenzene	1,000	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA
Xylenes (Total)	410	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA
Naphthalene	230	NA	NA	NA	NA	NA	ND	0.093	NA	NA	NA
BN+15 (mg/Kg)		NA	NA	ND	NA	NA	ND	0.073	NA	NA	NA
Acenaphthylene	3,400	NA	NA	0.031 J	NA	NA	ND	0.029	NA	NA	NA
Phenanthrene	NS	NA	NA	ND	NA	NA	0.079	0.198	NA	NA	NA
Anthracene	10,000	NA	NA	0.046	NA	NA	0.053 J	0.156	NA	NA	NA
Fluoranthene	2,300	NA	NA	0.028 J	NA	NA	ND	0.096	NA	NA	NA
Pyrene	1,700	NA	NA	ND	NA	NA	0.043	0.107	NA	NA	NA
Benzo[a]anthracene	0.9	NA	NA	0.025	NA	NA	0.104(b)	0.103 (b)	NA	NA	NA
Chrysene	9	NA	NA	0.178 (b)	NA	NA	0.047	0.108	NA	NA	NA
Bis(2-Ethylhexyl)phthalate	49	NA	NA	0.028	NA	NA	0.025	0.050	NA	NA	NA
Benzo[b]fluoranthene	0.9	NA	NA	ND	NA	NA	0.040	0.101	NA	NA	NA
Benzo[k]fluoranthene	0.9	NA	NA	0.024	NA	NA	0.028	0.062	NA	NA	NA
Benzo[a]pyrene	0.66	NA	NA	ND	NA	NA	0.027	0.063	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.9	NA	NA	ND	NA	NA					
Benzo[g,h,i]perylene	NS	NA	NA								

Notes:

ND = Not Detected

NA = Not Analyzed

mg/Kg = milligrams per kilogram

TPH = Total Petroleum Hydrocarbons

VOC = Volatile Organic Compounds

BN+15 = Semi-VOCs

PP+40 Metals = Priority Pollutant Metals

(b) = Analyte found in method blank as well as sample

J = Estimated value

(*) = Action level of 1,000 mg/kg; cleanup level of 10,000 mg/kg.

NS = No Standard

Table 2: PCB Soil Analytical Results
Former Unimatic Manufacturing Co. Facility
25 Sherwood Lane, Fairfield, New Jersey

Sample ID	Residential	AST-1C (9.5-10)	AST-2B (9.5-10.0)	AST-3C (10-10.5)	FT-1A	FT-1B (8-8.5)	FT-2A	FT-2B (8-8.5)	FT-2B (13-13.5)	FT-3A
Date Collected	Direct Contact	6/2/03	6/12/03	6/10/2003	5/9/03	6/2/03	5/9/03	6/4/03	6/4/03	5/9/03
Depth Collected (fbg)	Soil Cleanup	9.5 - 10.0	9.5 - 10.0	10.0 - 10.5	3.5 - 4.0	8.0 - 8.5	3.5 - 4.0	8.0 - 8.5	13.0 - 13.5	3.5 - 4.0
Percent Solids	Criteria	93.0%	93.0%	89.0%	82.9%	84.0%	81.4%	85.0%	84.0%	82.5%
Dilution Factor		2	20	1	50	1	10	200	1	10
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	1.7	14.8	ND	49.4	0.74	3.2	238.0	ND	6.7
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	1.7	14.8	ND	49.4	0.74	3.2	238.0	ND	6.7

Sample ID	Residential	FT-3B (8-8.5)	FT-3B (11-11.5)	FT-4A	FT-4B (8-8.5)	FT-5 (3-3.5)	FT-5 (8-8.5)	FT-5 (13-13.5)	FT-6 (3-3.5)	FT-6 (9-9.5)
Date Collected	Direct Contact	6/4/03	6/4/03	5/9/03	6/4/03	6/4/03	6/4/03	6/4/03	6/4/03	6/4/03
Depth Collected (fbg)	Soil Cleanup	8.0 - 8.5	11.0 - 11.5	3.5 - 4.0	8.0 - 8.5	3.0 - 3.5	8.0 - 8.5	13.0 - 13.5	3.0 - 3.5	9.0 - 9.5
Percent Solids	Criteria	89.0%	91.0%	78.3%	87.0%	88.0%	95.0%	95.0%	95.0%	96.0%
Dilution Factor		5	1	10	50	50	200	1	200	50
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	2.6	ND	9.0	37.0	48.0	122.0	0.97	236.0	11.6
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	2.6	ND	9.0	37.0	48.0	122.0	0.97	236.0	11.6

Sample ID	Residential	FT-6 (13-13.5)	FT-7 (2-2.5)	FT-8 (3-3.5)	FT-9 (3-3.5)	FT-9 (9-9.5)	FT-10 (8-8.5)	FT-11 (3-3.5)	FT-11 (8-8.5)	FT-11 (13-13.5)
Date Collected	Direct Contact	6/4/03	6/4/03	6/4/03	6/4/03	6/4/03	6/4/2003	7/16/03	7/16/03	7/16/03
Depth Collected (fbg)	Soil Cleanup	13.0 - 13.5	2.0 - 2.5	3.0 - 3.5	3.0 - 3.5	9.0 - 9.5	8.0 - 8.5	3.0 - 3.5	8.0 - 8.5	13.0 - 13.5
Percent Solids	Criteria	95.0%	88.0%	88.0%	83.0%	88.0%	93.0%	92.0%	92.0%	97.0%
Dilution Factor		5	50	1	1	1	200	1	50	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	2.0	55.0	0.225	1.2	ND	156.0	ND	35.2	ND
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	2.0	55.0	0.225	1.2	ND	156.0	ND	35.2	ND

Table 2: PCB Soil Analytical Results
Former Unimatic Manufacturing Co. Facility
25 Sherwood Lane, Fairfield, New Jersey

Sample ID	Residential	FT-12 (2-2.5)	FT-13 (2-2.5)	PE-1A (10-10.5)	PE-13A (20-20.5)	PE-13A (24.5-25)	PE-16A (20-20.5)	PE-16A (24.5-25)	PE-17A (20-20.5)	PE-17A (24.5-25)
Date Collected	Direct Contact	7/16/03	7/16/03	6/2/03	5/8/03	5/8/03	5/8/03	5/8/03	5/8/03	5/8/03
Depth Collected (fbg)	Soil Cleanup	2.0 - 2.5	2.0 - 2.5	10.0 - 10.5	20.0-20.5	24.5-25.0	20.0-20.5	24.5-25.0	20.0-20.5	24.5-25.0
Percent Solids	Criteria	91.0%	91.0%	72.0%	88.3%	90.0%	83.7%	89.0%	88.5%	91.0%
Dilution Factor		1	1	1	1	1	1	1	1	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	0.815	ND	0.25	0.062	0.137	0.069	0.636	0.159	ND
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	0.815	ND	0.25	0.062	0.137	0.069	0.636	0.159	ND

Sample ID	Residential	PE-18A (20-20.5)	PE-18A (24.5-25)	SB-27A	SB-27A	SB-27B	SB-30A-16	SB-30A-20	SB-31A-16	SB-34A-16
Date Collected	Direct Contact	5/8/03	5/8/03	5/8/03	5/8/03	6/12/03	5/9/03	5/9/03	5/9/03	5/9/03
Depth Collected (fbg)	Soil Cleanup	20.0-20.5	24.5-25.0	10.0-10.5	14.5-15.0	19.5 - 20.0	15.5-16.0	19.5-20.0	16.0-16.5	16.0-16.5
Percent Solids	Criteria	83.0%	88.0%	76.0%	87.0%	88.0%	82.7%	81.6%	82.7%	90.0%
Dilution Factor		1	1	20	20	1	1	1	1	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	1.53	1.240	20.0	14.2	ND	ND	ND	ND	ND
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	1.53	1.240	20.0	14.2	ND	ND	ND	ND	ND

Sample ID	Residential	SB-34A-19	SB-38A (10-10.5)	SB-38A (15-15.5)	SB-41A (18.5-19)	SB-41A (23.5-24)	SB-53A	SB-53A (6-6.5)	SB-54A (3-3.5)	SB-54A (7.5-8)
Date Collected	Direct Contact	5/9/03	6/2/03	6/2/03	7/15/03	7/15/03	5/9/03	6/2/03	7/29/03	7/29/03
Depth Collected (fbg)	Soil Cleanup	19.0-19.5	10.0 - 10.5	15.0 - 15.5	18.5 - 19.0	23.5 - 24.0	2.5 - 3.0	6.0 - 6.5	3.0 - 3.5	7.5 - 8.0
Percent Solids	Criteria	82.2%	78.3%	89.0%	92%	86%	78.2%	86.2%	86.0%	86.0%
Dilution Factor		1	2	1	20	1	50	1	2000	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	ND	1.55	ND	ND	ND	40.7	0.17	364	0.44
Aroclor 1254	0.49	ND	ND	ND	12	1.35	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	ND	1.55	ND	12	1.35	40.7	0.17	364	0.44

Table 2: PCB Soil Analytical Results
Former Unimatic Manufacturing Co. Facility
25 Sherwood Lane, Fairfield, New Jersey

Sample ID	Residential	SB-54A (12.5-13)	SB-65 (9.5-10)	SB-65 (14.5-15)	SB-66 (9.5-10)	SB-66 (14.5-15)	SB-67 (9.5-10)	SB-67 (14.5-15)	SB-68 (9.5-10)	SB-68 (14.5-15)
Date Collected	Direct Contact	7/29/03	6/2/03	6/2/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03	6/12/03
Depth Collected (fbg)	Soil Cleanup	12.5 - 13.0	9.5 - 10.0	14.5 - 15.0	9.5 - 10.0	14.5 - 15.0	9.5 - 10.0	14.5 - 15.0	9.5 - 10.0	14.5 - 15.0
Percent Solids	Criteria	83.0%	83.2%	86.9%	85.0%	91.0%	86.0%	90.0%	90.0%	90.0%
Dilution Factor		5	1	1	1	1	1	1	100	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	3.85	0.273	ND	ND	ND	ND	ND	83.3	0.029
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	3.85	0.273	ND	ND	ND	ND	ND	83.3	0.029

Sample ID	Residential	SB-69 (2.5-3)	SB-69 (7.5-8)	SB-70 (2.5-3)	SB-70 (7.5-8)	SB-71 (2.5-3)	SB-71 (7.5-8)	SB-73 (5-5.5)	SB-74 (2.5-3)	SB-74 (7.5-8)
Date Collected	Direct Contact	6/12/03	6/12/03	6/2/03	6/2/03	6/12/03	6/12/03	6/4/2003	7/15/2003	7/15/2003
Depth Collected (fbg)	Soil Cleanup	2.5 - 3.0	7.5 - 8.0	2.5 - 3.0	7.5 - 8.0	2.5 - 3.0	7.5 - 8.0	5.0 - 5.5	2.5 - 3.0	7.5 - 8.0
Percent Solids	Criteria	83.0%	86.0%	92.5%	85.0%	88.0%	87.0%	84.0%	87.0%	81.0%
Dilution Factor		50	10	40	5	1000	1	1	1	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	40.7	6	25.2	2.04	989	0.067	0.084	ND	ND
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	40.7	6	25.2	2.04	989	0.067	0.084	ND	ND

Sample ID	Residential	SB-75 (3-3.5)	SB-75 (9-9.5)	SB-76 (2.5-3)	SB-76 (8-8.5)	SB-76A (13-13.5)	SB-76A (18.5-19)	SB-76A (23.5-24)	SB-77 (11.5-12)	SB-78 (3-3.5)
Date Collected	Direct Contact	7/15/2003	7/15/2003	7/15/2003	7/15/2003	8/26/2003	8/26/2003	8/26/2003	7/15/2003	7/15/2003
Depth Collected (fbg)	Soil Cleanup	3.0 - 3.5	9.0 - 9.5	2.5 - 3.0	8.0 - 8.5	13.0 - 13.5	18.5 - 19.0	23.5 - 24.0	11.5 - 12.0	3.0 - 3.5
Percent Solids	Criteria	91.0%	85.0%	84.0%	86.0%	81.1%	85.1%	80.0%	99.0%	86.0%
Dilution Factor		20	1	1	1000	1	1	1	100	20
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	17.6	0.2	1.05	1,162	0.665	0.286	0.346	87	23.3
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	17.6	0.2	1.05	1,162	0.665	0.286	0.346	87	23.3

Table 2: PCB Soil Analytical Results
Former Unimatic Manufacturing Co. Facility
25 Sherwood Lane, Fairfield, New Jersey

Sample ID	Residential	SB-78 (7.5-8)	SB-78A (12.5-13)	SB-79 (4-4.5)	SB-79 (10-10.5)	SB-80 (3-3.5)	SB-80 (8-8.5)	SB-81 (3-3.5)	SB-81 (8-8.5)	SB-81A (13-13.5)
Date Collected	Direct Contact	7/15/2003	7/29/2003	7/16/2003	7/16/2003	7/29/2003	7/29/2003	7/29/2003	7/29/2003	8/26/2003
Depth Collected (fbg)	Soil Cleanup	7.5 - 8.0	12.5 - 13.0	4.0 - 4.5	10.0 - 10.5	3.0 - 3.5	8.0 - 8.5	3.0 - 3.5	8.0 - 8.5	13.0 - 13.5
Percent Solids	Criteria	88.0%	92.0%	81.0%	77.0%	93.0%	87.0%	90.0%	87.0%	81.0%
Dilution Factor		500	5	1	1	1	1	50	40	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	204	2.8	0.235	0.077	0.954	0.061	50.5	56.80	0.403
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	204	2.8	0.235	0.077	0.954	0.061	50.5	56.80	0.403
Sample ID	Residential	SB-81A (23.5-24)	SB-82 (8-8.5)	SB-82 (19-19.5)	SB-82 (23.5-24)	SB-83A (8-8.5)	SB-83 (11.5-12)	SB-83 (16.5-17)	SB-83 (23.5-24)	SB-83A (28.5-29)
Date Collected	Direct Contact	8/26/2003	7/29/2003	7/29/2003	7/29/2003	8/26/2003	7/29/2003	7/29/2003	7/29/2003	8/26/2003
Depth Collected (fbg)	Soil Cleanup	23.5 - 24.0	8.0 - 8.5	19.0 - 19.5	23.5 - 24.0	8.0 - 8.5	11.5 - 12.0	16.5 - 17.0	23.5 - 24.0	28.5 - 29.0
Percent Solids	Criteria	81.2%	87.0%	85.0%	88.0%	83.0%	83.0%	81.0%	75.0%	86.1%
Dilution Factor		1	1000	500	100	1	1	1	100	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	0.130	385	203	38.6	0.871	1.76	0.833	119	1.459
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	0.130	385	203	38.6	0.871	1.76	0.833	119	1.459
Sample ID	Residential	SB-83A (32-32.5)	SB-84 (8-8.5)	SB-84 (11.5-12)	SB-84A (16.5-17)	SB-84A (23.5-24)	SB-84A (28.5-29)	SB-84A (32-32.5)	SB-85 (3-3.5)	SB-85 (23.5-24)
Date Collected	Direct Contact	8/26/2003	8/26/2003	7/29/2003	7/29/2003	7/29/2003	8/26/2003	8/26/2003	8/27/2003	8/27/2003
Depth Collected (fbg)	Soil Cleanup	32.0 - 32.5	8.0 - 8.5	11.5 - 12.0	16.5 - 17.0	23.5 - 24.0	28.5 - 29.0	32.0 - 32.5	3.0 - 3.5	23.5 - 24.0
Percent Solids	Criteria	84.9%	86.9%	87.0%	88.0%	86.0%	83.2%	86.0%	89.0%	81.4%
Dilution Factor		20	20	1	1	100	1000	20	5	20
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	25.602	28.393	0.28	1.58	161	233.574	26.881	2.47	17.016
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	25.602	28.393	0.28	1.58	161	233.574	26.881	2.47	17.016

Table 2: PCB Soil Analytical Results
Former Unimatic Manufacturing Co. Facility
25 Sherwood Lane, Fairfield, New Jersey

Sample ID	Residential	SB-85 (28.5-29)	SB-86 (23.5-24)	SB-86 (28.5-29)	SB-86A (33.5-34)	SB-86A (38.5-39)	SB-87 (23.5-24)	SB-87 (28.5-29)	SB-88 (3-3.5)	SB-88 (8-8.5)
Date Collected	Direct Contact	8/27/2003	8/27/2003	8/27/2003	9/25/2003	9/25/2003	8/27/2003	8/27/2003	8/26/2003	8/26/2003
Depth Collected (fbg)	Soil Cleanup	28.5 - 29.0	23.5 - 24.0	28.5 - 29.0	33.5 - 34.0	38.5 - 39.0	23.5 - 24.0	28.5 - 29.0	3.0 - 3.5	8.0 - 8.5
Percent Solids	Criteria	84.3%	75.7%	90.7%	79.0%	87.0%	82.5%	0.87	89.1%	79.0%
Dilution Factor		10	5	50	50.0%	5	1	10	1	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	8.856	3.015	89.211	62.724	2.777	1.484	3.558	1.781	ND
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	8.856	3.015	89.211	62.724	2.777	1.484	3.558	1.781	ND

Sample ID	Residential	SB-89 (23.5-24)	SB-89 (28.5-29)	SB-90 (3-3.5)	SB-90 (8-8.5)	SB-91 (3-3.5)	SB-92 (3-3.5)	SB-93 (3-3.5)	SB-94 (28.5-29)	SB-94 (33.5-34)
Date Collected	Direct Contact	8/27/2003	8/27/2003	8/26/2003	8/26/2003	9/25/2003	9/25/2003	9/25/2003	9/25/2003	9/25/2003
Depth Collected (fbg)	Soil Cleanup	23.5 - 24.0	28.5 - 29.0	3.0 - 3.5	8.0 - 8.5	3.0 - 3.5	3.0 - 3.5	3.0 - 3.5	28.5 - 29.0	33.5 - 34.0
Percent Solids	Criteria	86.2%	90.1%	82.5%	86.1%	89.0%	87.0%	90.0%	88.0%	81.0%
Dilution Factor		10	10	1000	1	1	2	1	1	1
PCB (mg/Kg)										
Aroclor 1242	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	0.49	3.751	9.697	2177.374	ND	0.0286	2.248	0.858	1.291	0.0443
Aroclor 1254	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1260	0.49	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	0.49	3.751	9.697	2177.374	ND	0.0286	2.248	0.858	1.291	0.0443

Sample ID	Residential	SB-94 (38.5-39)
Date Collected	Direct Contact	9/25/2003
Depth Collected (fbg)	Soil Cleanup	38.5 - 39.0
Percent Solids	Criteria	83.0%
Dilution Factor		1
PCB (mg/Kg)		
Aroclor 1242	0.49	ND
Aroclor 1248	0.49	0.148
Aroclor 1254	0.49	ND
Aroclor 1260	0.49	ND
Total PCBs	0.49	0.148

Notes:

Bold indicates an exceedance of the RDCSCC.

ND = Not Detected

NA = Not Analyzed

mg/Kg = milligrams per kilogram

TPH = Total Petroleum Hydrocarbons

VOC = Volatile Organic Compounds

BN+15 = Semi-VOCs

(*) = Action level of 1,000 mg/kg; cleanup level of 10,000

Table 3: VOC Soil Analytical Results
Former Unimatic Manufacturing Co. Facility
25 Sherwood Lane, Fairfield, New Jersey

Sample ID	Residential	FT-1B (3 - 3.5)	FT-2B (3.5 - 4)	FT-5 (3 - 3.5)	FT-7 (2 - 2.5)	FT-8 (2 - 2.5)	FT-11 (13 - 13.5)	SB-25A	SB-49C (3.5 - 4)
Date Collected	Direct Contact	6/2/03	6/4/03	6/4/03	6/4/03	6/4/03	7/16/2003	5/9/03	6/2/03
Depth Collected (fbg)	Soil Cleanup	8.0 - 8.5	3.5 - 4.0	3.0 - 3.5	2.0 - 2.5	2.0 - 2.5	13.0 - 13.5	3.0-3.5	3.5 - 4.0
Percent Solids	Criteria	84.0%	88.3%	88.0%	88.0%	88.2%	97.1%	84.6%	84.8%
Dilution Factor		1	1	50	50	1	1	1	1
VOC (mg/Kg)									
Trichloroethene	23	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1,000	0.14	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	410	1.475	ND	ND	ND	ND	ND	ND	ND
Naphthalene	230	1.19	ND	ND	0.573	ND	0.302	ND	ND

Notes:

Bold indicates an exceedance of the RDCSCC.

ND = Not Detected

NA = Not Analyzed

mg/Kg = milligrams per kilogram

VOC = Volatile Organic Compounds

Only targeted VOCs that were detected are listed in the above table.